



MSU DROUGHT GUIDE REVISED 1992

Sheep Management During Drought

by Rodney Kott, Sheep Specialist, Montana State University

Drought conditions throughout Montana have shortened available grazing and therefore, increased the period of supplemental feeding. The increased demand for feed, combined with lower hay production, has driven the price of some of Montana's more traditional feedstuffs considerably higher than normal. This has created a need for producers to look at some nontraditional or alternate feeds. Sheep require energy, protein, vitamins and minerals and these nutrients do not need to come from hay, oats and/or barley. It usually does not make much difference how or with what feeds nutrient requirements are met. Key factors, such as feed availability, quality and ultimately relative cost per unit of feed value should determine which to use.

Table 1 lists a number of feeds common to Montana and their cost per pound of protein and energy is based on three different feed costs. This principle can also be applied to feeds which are purchased for supplementing minerals and vitamins as well. In many cases these will be commercial supplements, but a similar comparison can be made.

When purchasing these feeds, be certain that the average composition being used is equivalent to the unit and price for which you are purchasing it. For example, silages and other high moisture feeds contain a higher percentage of water. On a weight basis these feeds are low in protein and energy, even though they may be a highly palatable, good feed to use. Be certain that comparisons are based on energy, protein and water content if that is included in the price.

Table 1. Some Prices for Protein and TDN in Various Feeds

	Cost/ton	% protein	Cost/cwt protein	TDN%	Cost/cwt /TDN
Alfalfa hay	\$50	15	\$16.67	51	\$4.90
Alfalfa hay	60	15	20.00	51	5.88
Alfalfa hay	70	15	23.33	51	6.86
Corn silage	15	2	37.50	20	3.75
Corn silage	20	2	50.00	20	5.00
Corn silage	25	2	62.50	20	6.25
Barley straw	15	3	25.00	41	1.83
Barley straw	20	3	33.33	41	2.44
Barley straw	25	3	41.67	41	3.05
Bromegrass hay	50	11	22.73	47	5.32
Bromegrass hay	60	11	27.27	47	6.38
Bromegrass hay	70	11	31.82	47	7.45
Barley grain	100	12	41.67	78	5.78
Barley grain	110	12	45.83	78	7.05
Barley grain	120	12	50.00	78	7.69
Oats grain	90	12	37.50	65	6.92
Oats grain	100	12	41.67	65	7.69
Oats grain	110	12	45.83	65	8.46
Wheat grain	170	15	56.67	88	9.66
Wheat grain	180	15	60.00	88	10.23
Wheat grain	190	15	63.33	88	10.80
Corn grain	100	7	71.43	73	6.02
Corn grain	110	7	78.57	73	7.53
Corn grain	120	7	85.71	73	8.22
Soybean oil meal	200	50	20.00	80	12.50
Soybean oil meal	210	50	21.00	80	13.13
Cottonseed meal	120	45	13.33	75	8.00
Cottonseed meal	130	45	14.45	75	8.67
Cottonseed meal	140	45	15.56	75	9.33

Buying a feed on an as fed basis and comparing it with a table containing 100 percent dry

matter content can be very misleading when comparing feeds, particularly with high moisture content.

In years when feeds are limited, particular attention should be given to what the ewes are eating. If a ewe's nutritional requirement to produce lamb and wool are not met, she will not produce at a satisfactory level. Likewise, a ewe, given the opportunity will eat twice as much as she needs. In certain stages of production it may be advantageous to restrict a ewe's intake or grazing time. This will help stretch available feed resources. Producers must first know the sheep's nutrient requirements and nutrient content of the feeds the sheep are consuming before a sound feeding program can be outlined (Tables 2 and 3).

Table 2. Thumb Rules for Ewe Feeding

150 lb. Ewe	TDN	Protein
Early gestation	1.7 lb	0.3 lb
Late gestation	2.7 lb	0.4 lb
Lactation	3.7 lb	0.6 lb

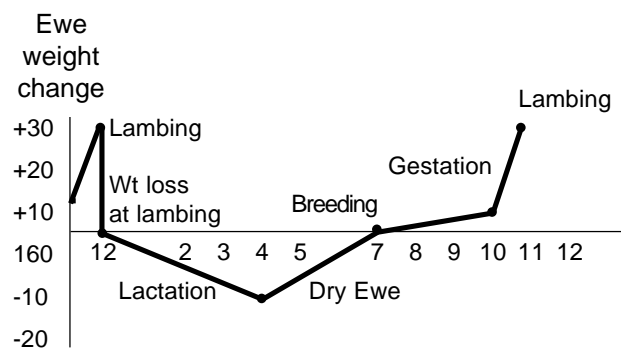
Table 3. Thumb Rules for Feed Compositions (as fed basis)

Hays	50% TDN
Grains	75% TDN
Silage	26% TDN
Grasses	6-12% TDN
Legumes	15% Protein
Grains	9-12% Protein
Silage	3% Protein
Grain	Low Calcium, High Phosphorus
Legumes	High Calcium, Med. Phosphorus
Grasses	Med. Calcium, Low Phosphorus
Silage	Low Calcium, Low Phosphorus

Ideally, a ewe should lose five to seven percent of her body weight during lactation, recover this during the dry period and then gain weight during gestation in proportion to the weight of the fetal tissues and fluids (Figure 1).

One of the best ways to determine how much a ewe should be fed is by monitoring her changes in condition. By condition scoring and using that information in the feeding program, available feed resources can be stretched and yet provide adequate nutrition for satisfactory pro-

Figure 1. Normal weight changes expected in a year for a 160-pound ewe giving birth to and rearing twin lambs



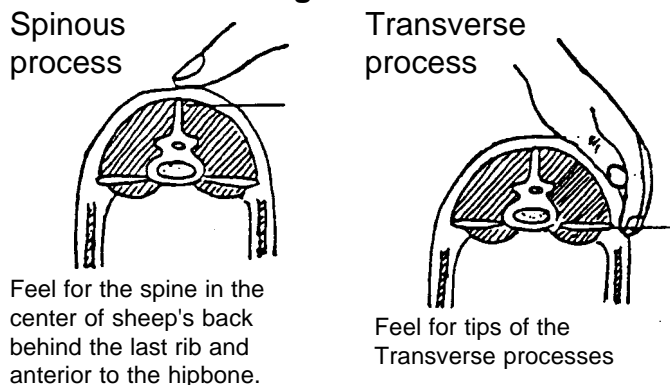
duction.

Condition scoring is a system of classifying breeding animals by differences in relative body fatness. It permits the sheep producer to identify, record and adjust the feeding program to those sheep who are thin, in average flesh or extremely fat. Thin or fat ewes can be sorted-off and fed accordingly. Also, potential need for major changes in the feeding program can be determined.

Body condition scoring is relatively easy to do and requires no specific equipment except a sorting chute and maybe some chalk. To be most effective, condition scoring should be a hands-on appraisal. A hands-on condition score permits a truer assessment of a sheep's condition, which, during critical production periods, (last four to six weeks of pregnancy) is often hidden by fleece growth.

Scoring should be based on the degree of muscling and fat deposition over and around the vertebrae in the loin region (Figure 2). Usually sheep are condition scored from one to five with one being extremely thin, five being extremely

Figure 2.



fat and three being average (Figures 3, 4 and 5). Typically, about 70-80 percent of sheep in a flock will fall within two scores with over 90 percent of sheep in a flock within three scores (e.g., scores two, three and four).

Although limited research exists, a great deal of practical evidence suggests that extreme

Figure 3. Condition Score 1

Sheep extremely thin and unthrifty. Skeletal features prominent, no fat cover

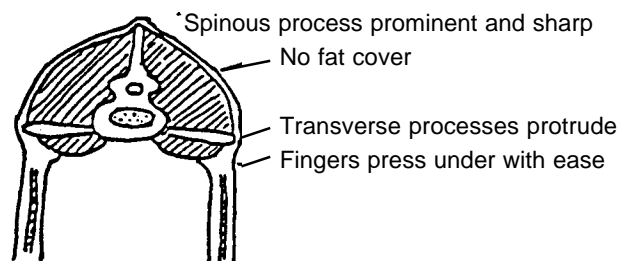
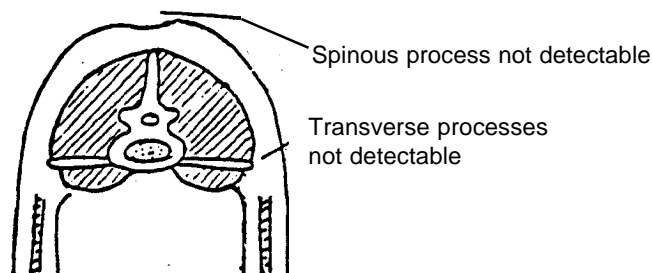
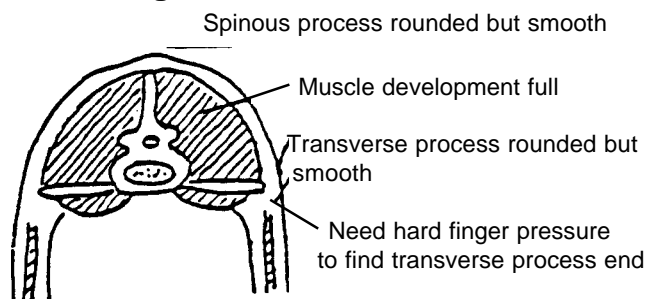


Figure 4. Condition Score 5



Sheep extremely fat with excess detectable over shoulder, backbone, rump and fore-rib. Excess fat deposits in brisket, flank and tail head regions lack firmness. Sheep appear uncomfortable and reluctant to move about. Quality fleeces are generally found

Figure 5. Condition Score 3



Sheep are thrifty with evidence of limited fat deposits in fore rib, over top of shoulder, backbone, and tail head. Hip bone remains visible.

condition scores of one and maybe two, should be avoided because of decreased performance and liveability. Similarly, the extremes of four and five should be avoided (1) because of problems in conception and lambing,(2) because economics discourages the extremes of four and five. Ewes with scores of four and five or one and two are good candidates for pregnancy toxemia.

Ideally, at breeding, ewes should have a condition score of between two-plus and three-plus and rams around three-plus. This body condition should be maintained for the first 30 days post-breeding. During mid-gestation, some loss of weight and condition is allowable at the three and four score levels. However, this weight loss should not exceed five percent of the mature ewes weight at a condition score of three or three-plus.

During late gestation, ewes should have sufficient body reserves to maintain the growth of the lambs and initiate optimum milk production. A body condition score of two-plus to three-plus is desirable four to six weeks prior to lambing. At lambing, ewes should have a condition score of three-plus.

In an experiment conducted at MSU, over 50 percent of the lambs born to ewes with condition scores of two or less died or had to be bummed. When condition scores were around three, the number of lambs dying or being bummed was significantly reduced.

Regular condition scoring, and acting on the results, will help to ensure the most efficient and economical utilization of available feed resources. Thin ewes (condition scores one and two) can be separated and given extra feed. Over fatness can be avoided by only feeding extra feed to those that need it.